

superior for all hydraulic purposes. Sadly, it works much more freely than plaster, when mixed with *clean washed river sand*; and, thirdly, it is *ten times* more durable. It must be clearly understood, that I allude to the *genuine material only*, not the numerous spurious articles, bearing the name, which now inundate the London, Hull, and Glasgow markets, many of which are infinitely worse than crushed lime.

The best Roman cement ever used in England was made from stone discovered on the estate of the late Lord Mulgrave, near Whitby, by Mr. Wm. Atkinson, architect, and applied very extensively to external works in England and Scotland by the late Mr. Francis Bernasconi, plasterer, of London, and the late Mr. Geo. Robeson, of Durham. Amongst these works may be named the upper story of the great central tower of Durham Cathedral, by Bernasconi,—this example has been executed nearly fifty years, and the plain surfaces remain comparatively good; and partially covered with lichen; but the crockets, finials, heads, and other ornaments are hastening to decay, arising, principally, from an excess of cement having been employed in its admixture with sand.

This work forms a melancholy lesson, destructive of the application of cement altogether for all kinds of external facings, at least in our own country, for they are one, and all nothing more nor less than paltry and contemptible subterfuges, completely beneath the true dignity of architectural design, and should never be used when good bricks and stone are to be found; and even the latter material, unfortunately, in numerous instances is of the most perishable nature, great care being required as to its selection, in proof of which we can now point to handsome sandstone structures that have not been erected ten years, which are already in a state of decomposition. If, therefore, the architect has any ambition to build for eternity, he must either employ *granite or good well burnt bricks*, and above all things, not mix up stone and brick, as in St. George's Cathedral, and other churches in and about London. Who ever heard tell of a *brick and stone cathedral* by the men of the middle ages, or by the great Wren?

All public buildings on a large scale, such as cathedrals, colleges, halls of justice, theatres, palaces, mansions, &c., should surely be constructed externally of *one material*, and in cases where our English architects adopt brick, why not follow the system of Schinkel, the eminent German architect, viz., to model and mould all the embellishments and mouldings in clay, which produces a uniformity of colour and effect?

Our late lamented friend and companion in architectural labour, Mr. Peter Nicholson, held the theory, that a building should appear as if it were cut out of a solid stone or marble; this we consider stretching the matter too far; but Mr. Nicholson was essentially track and Romish in his ideas, and the fact of this theory being impracticable, renders it somewhat absurd, and we see no great objection to joints appearing in their proper places, provided they do not upset the general masses and outlines of the structure.

The great evil of the present age appears to be an attempt to make a *grand display*. Some architects adopt the decorated period of Gothic architecture, developing in some instances a great variety of tracery, no parapets or clerestories, with a total absence of towers or steeples; and in others a mixture of yellow coloured brick, with stone dressings, as instanced above. Now we beg humbly to suggest, in preference to this mode of procedure, that the judicious architect, instead of aiming at elaborate and ornate display, should contemplate and adapt from the glorious early English examples to be found in the cathedrals of Lincoln and Salisbury, the north transept at York, and the magnificent specimen of the gloze altar at Durham, and produce from them structures of more simple forms, complete in all their parts, with nave and aisles, choir, clerestory, parapets, and the tower and spire, instead of the garbled and unsatisfactory productions, which are constantly being inflicted on the present age of architectural mediocrity.

In opposition to such, I cannot help alluding to the new church at Camberwell, the designer of which appears to have grappled with his subject in the truly

vigorous early English feeling, which we are endeavouring to advocate. We censure the brick and stone London professors, instead of the pie-bald brick and stone Gothic, to give us structures composed externally of *one material, effective, and complete in all their parts*; that will reflect honour on the age in which we live, and hand down the names of their designers to an admiring posterity.

So ends my present theme, and should you deem these remarks worthy of insertion, I shall in a future paper, make further observations on the latter portion of your review of the meeting of the Institute of Architects above alluded to, in which mention is made of Portland and John's cement, mastic, &c., by the chairman, Mr. Poynter, and Mr. Godwin.—I am, meanwhile, yours, &c.

FRANK TERNELL.

Newcastle-upon-Tyne, June, 1846.

PROFESSOR WILLIS ON ECCLESIASTICAL ARCHITECTURE.

CONCLUDING LECTURE.

On Tuesday, the 9th instant, Professor Willis gave the eighth and concluding lecture of his course. He ascribed some importance to the theory of the eastern origin of the pointed arch, and did not consider the dissimilarity of other parts a sufficient objection. He also dwelt upon the known influence of the Moslem universities, to which students flocked from all parts of the world. These men, returning to their native countries, would describe the architecture of the cities in which they had been educated, and, probably not being architects, would be able to give little more than the form of the arch to the workmen, whom they wished to execute it. These would construct the pointed arch with the mouldings previously in use. Thus we had many buildings, in which the round arch and the pointed arch were employed together, and the pointed arch had the zig-zag, and other enrichments of the Norman. At length, the architects seem to have got tired of the shallow Norman mouldings, and having, as we learnt from Gervase, better tools, they worked them with deeper hollows, as previously mentioned.

The first change, therefore, which took place from the Norman style was in the form of the arch, and the second, in the mouldings. But the piers also were worked on a different system; and ornament, instead of being only scratched upon the surface, had all the relief and elegance, which the improved facilities admitted of. Still the tracery principle was wanting; for the windows of the early English period were merely groups of openings. When this principle came in, which it did probably about twenty years earlier in France than in England, like the pointed arch, it did not immediately alter anything else. Rickman's views, like those of many other able writers, had been based upon the assumption, that no Gothic building of any importance existed out of England; the continent then being closed by the long war. There was, however, great credit to be attributed to him, and the professor thought it better to retain his nomenclature, at least, until some other terms should be introduced, which could be generally agreed to. The important epoch of the introduction of tracery, had wholly escaped the notice of Rickman.

Respecting the current use of the term "transition," as applied to this period, when one style was supposed to be progressing towards another, the professor said he considered it loose and unscientific, leading to an erroneous impression of the changes of style. He thought, that a more accurate impression was realised by viewing each part separately;—thus, when tracery was introduced, it did not at once gain its proper mouldings, but was worked with those previously in use. The great difficulty attending this, at length led to the use of fewer mouldings. As in this case, so in the transition to perpendicular, and throughout all the parts of a building. The transition to perpendicular was more gradual than any other. Indeed, the geometrical and flowing patterns continued till the close of the style; and there were also the "imbricated," and other patterns, in which perpendicular lines were hardly discoverable. He might, perhaps, have met with an example of the perpendicular style on the continent, but it might be held as a rule, that that style was confined to England. The mouldings of the

late perpendicular style were wholly different from those of the early English period. Taking a door, or window arch, these mouldings were not composed of rounds and hollows, in groups as in the early style, but were the classical outlines, with very slight relief. The groups were indeed separated by bold hollows, but their different members were extremely shallow. A form, like the brace in music, which we might call "brace moulding," was very common.

The professor then referred to models upon the table; one representing a compartment in the length of Norwich Cathedral, and the other a similar portion of York. In the Norman cathedrals, there were three horizontal divisions. The triforium, in the centre, was large and lofty, in all respects resembling the aisle below, and was lighted by windows of its own, as in St. Sophia, at Constantinople. He was not aware that this gallery had been used for the separation of the sexes; it appeared to have been erected, merely from traditional usage. Besides this gallery, there was one in the clerestory wall, serving as a passage. The windows of the triforium had certainly not been intended for the use of the nave, for they could not be seen from any point below. Therefore, during the later period, the wall was raised, the windows blocked up, and perpendicular windows inserted at a higher level, the whole being covered with a flat roof; and this was the actual state at Norwich, Peterborough, and some other places.

The importance of the triforium, as a distinctive feature, became gradually less and less. York Cathedral was an example of a curious substitute, made by prolonging the mullions of the clerestory window, in the space of wall, against which abutted the roof of the side aisle. In late examples, even the semblance of a triforium was omitted. As to the object of this gallery, it could not have existed without some use, and he thought, that that purpose was the hanging of tapestry, which we knew was used at great festivals of the church. The term "triforium," as applied to the centre compartment, showed in a curious manner, how a term might be fixed in a signification, to which it had not been confined. The only old author who used it was Gervase, and it originally applied to any passage. It was in fact a Latinized form, after the manner of the middle ages, of the English word "thoroughfare."—In the early English windows, the glass was placed nearer to the outside than the inside of the wall; but in later examples, it was actually nearer to the inside, whilst in many cases, there was space for an external gallery.—He then gave some further explanation of the forms of mouldings, and said that he could not better conclude his lectures than by endeavouring to impress upon them this fact, that, though it was quite true there were different styles, the various details of a building had become changed at separate and distinct periods.

The professor concluded his course amidst great applause. We regret that our reports have necessarily been limited to such important heads, as would be most valuable to our readers, but we cannot omit to remark, that the professor's happy manner and his admirable models, rendered the subject interesting and clear to a general audience, to an extent that few lecturers have reached.*

NOVEL MODE OF INTERMENT.—Mr. T. Brookhouse, Roman cement manufacturer, of Derby, having died, was interred in All Saints' churchyard on Tuesday week. A thick layer of cement was spread at the bottom of the grave just before the coffin was lowered; the sides and ends were then filled, and another layer of the same material at the top completely hid the coffin from view, and rendered it air-tight. Ere it hardened, which the cement did in a few minutes to the consistency of the hardest stone, the deceased's name was traced in the yielding mass, so that, if at some future age the deposit should be disturbed, the name of the occupier of the interior may be read.—*Globe*.

BAITON INSTITUTION.—This gallery is now open for the exhibition of works of the old masters, and consists chiefly of portraits of eminent persons.

* In report of last lecture, line 13 from end of paragraph, for "abbey arches" read "abbey churches."